



# PS 288FC™

Creating a Whole New Price-Performance Value  
in Automated Programming

1-800-3-DATAIO  
www.dataio.com

**Data I/O**

## PS288FC Automated Device Programming System for Medium Volume High Mix Applications

### Throughput

- Fastest high-density Flash based device automated programming solution in its class.
- Program and verify speeds of less than 0.19sec/ Mbit.

### Cost

- Lowest programming cost per part in the industry.
- Combination of high output, low capital investment and low consumable cost.

### Quality

- Industry proven platform ensures quality products from day one.

### Flexibility

- Install additional media options easily and quickly for job speed and flexibility.
- Install additional PS288FC for improved price performance and flexibility over the industry's higher throughput automated programmers.

### Capacity

- Offering 4 programming stations providing up to 16 device sockets.

### Protected Investment

- Modular concept uses same GUI, programmers, adapters, algorithms, programming job files and feeder options, tray, tape and tube as PS300FC automated programming system.

### Technology

FlashCORE™ is the same high-speed architecture used in the industry leading FlashPAK™, PS300FC™ and ProLINE-RoadRunner™.

- Enhanced programming time performance includes verification time.
- Supports the highest-density devices, i.e. 1 GByte.
- System configuration maximizes output for Flash devices, improving productivity and lowering programming costs.

### Fast Changeover times

- Optimized for high-mix, medium-volume applications.
- Changing system configuration includes data files, media and adapters, typically converting 16 sockets tray to tray to 16 socket tray to tape with auto labeling is done in less than 10 minutes, no re-teaching, no calibrations necessary.

### Versatile and reliable

- Proven track record delivers high reliability.
- Fast changeover, easy configuration, enhanced performance and high reliability maximize production time.

### Global support and service

- Data I/O global service commitment provides local support worldwide.

The PS288FC is the perfect answer to your need for programming small to medium batches. It accommodates unpredictable batch sizes and your continually changing programming demands. The PS288FC adapts to your environment with flexibility and fast changeover times without compromise to throughput or cost per part. Built around the proven PS family and FlashCORE programming architecture, the PS288FC is an all-new machine setting a higher industry performance standard in component handling efficiency. The compact footprint belies its power; the PS288FC can handle large jobs with ease. The unique user interface, common with the PS family, enhances productivity while reducing operator fatigue and training. The PS288FC is designed to maximize the effectiveness of your programming investment in today's challenging business environment.

## MODULAR CONCEPT

The PS Series automated programmer concept means that every one of our machines is compatible with the others. All use the same GUI, programmers, consumables, algorithms, programming job files and feeder options, such as tray, tape and tube. With the PS Series modular concept your investment protection is guaranteed for years to come.

## SMALLER FOOTPRINT

To answer the market demand of smaller batch size programming, the new PS288FC automated programmers are designed with all the same advantages of the PS300FC machines, but packaged into a smaller workspace.

## PRODUCT CHANGEOVERS

The new PS288FC is developed especially for use in flexible, medium volume, high mix programming environments involving variable lot sizes and quick product changeovers.

## PRICE PERFORMANCE

The PS288FC fully automated programmer from Data I/O delivers an entirely new benchmark for productivity and value—highly automated, supremely flexible, compact design—creating a whole new price-performance sector.

## HIGH-MIX PROGRAMMING

To meet today's high-mix programming challenges, you need the same control, precision and consistency as high volume programming without the complexity.

## INCREASED PRODUCTIVITY

Productivity for the PS288FC is maximized by the combination of its highly reliable system platform, lower cost of ownership, proven quality performance, ease of use, and Data I/O's global support organization.



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## Specifications

### System Components

- Automated programming system with pick and place, marking and media transfer sub-systems.
- Handler throughput – Standard: 1000 cph. High Efficiency: 1350 cph (Tray/Tray, no vision, no marking, low programming time).
- X-Y robotics with high performance servo drive system.
- Pick and placement accuracy: 0.038mm (0.0015”).
- Theta axis resolution: 0.07 degrees.
- X, Y, Z and Theta rotation.
- Placement force < 10N.
- Vision alignment and self-calibration.
- Component processing range: SOIC 8 – QFP256, including 600 mil DIP.
- Auto-optimize program to optimize programmer performance.
- Easy to use GUI provides simple machine set-up and diagnostics.
- Upward looking camera for device alignment strategically positioned to optimize throughput while ensuring highest levels of quality.
- Compact footprint preserves floor space.

### Programming Modules

- FlashCORE high memory, high-speed controller reduces programming times and supports high density devices, including 1Gbit Flash memories.
- Four FlashCORE programming stations, creating up to 16 programming sites.
- Programming 16 sites simultaneously.
- Programming capacity: Limited only by size of PC memory card used.
- Package types including PLCC, TSOP, SOP, BGA, µBGA, QFP and more.
- Data I/O High Insertion Count Adapter for BGA, µBGA and QFP packages, lowest insertion cost per device in the industry, over 150,000 insertions per socket, unparalleled yields of typically 99.8%.
- Package adapter changeover times for all four sites are typically less than one minute per programming station.
- All programming stations are independent ensuring high programming yields are maintained.
- Enhanced serialization with serial number master files eliminates device duplication
- Serial number pass through to marking option.
- “Device in socket” test eliminates programming errors.
- Unique programmer selection feature allows alternate jobs to be loaded quickly.

### Device Support

- Flash Memory: NOR, NAND, Disk on Chip, MCP, SuperAND.
- Microcontrollers.

### Package Support

- PLCC, SOIC, SON, WSON, SSOP, CSP (BGA, µBGA and FPGA), QFP, TQFP, TSOP

### Device Testing

- Continuity, check sum, blank check, mis-insertion, compare, test, verify, backward device, two pass verify, test vectors.

### Regulatory Compliance

- CE.

### I/O Media Options

- Any combination of input/output media possible.
- Fast changeover times, typically less than 5 minutes for tape inputs and seconds for trays.
- Tape input/output and/or, tube input/output and/or 2 JEDEC/Non-JEDEC tray locations (manual and/or automated).
- Tray location for device rejects.
- Media transfer available without programming (i.e., Tape to tray, tray to tape, Includes Marking, etc.).
- Tape Input: 12–56mm.
- Tape Output: 8–56mm.
- Cover tape pressure or heat sealer.
- Tube Input and Output (SOIC 8-PLCC 84).
- Tray feeder Input/Output JEDEC (TF20).
- Tray feeder Input/Output Non-JEDEC (TF30).



### Marking Options

- Labeler.
- Type: Thermal.
- Labels: standard materials including regular Polyester and Kapton.
- Size: Labels to match device packages (additional label literature available on request).
- Fully integrated label generation and upload for Label Printer.
- Labels can be as small as 0.5 in. wide x 0.2 in. high.
- Resolution of 300-dpi print 8 in./sec with a 4.2-in. print width.
- Device positioning accuracy of 0.5mm (0.020”) ensures label is correctly positioned for marking.

### PC Network

- Ethernet (LAN/WAN).

### Pick and Place System Software

- User interface.
- Windows with touch screen.
- Monitor 800 x 600 SVGA 12.1” TFT touch screen display.
- Features and reports.
- Tasks definition, Set-up, report files.
- Error tracking.
- Operating system: Windows 98.



### Service Spares

- PS288FC maintenance kit.
- PS288FC basic spares kit.
- PS288FC supplemental spares kit.
- PS-FlashCORE spares kit.

### Support Options

- Operator training
- Annual maintenance contracts.

### Electrical/Power Requirements

- Input voltage: 208 – 240VAC, 50/60 Hz, 1 Phz.
- 10 Amps Max.

### Compressed Air Usage

- Air pressure: 80psi (5.5bar).
- Air flow: 3 CFM (85 liters/min.).

### Operating Temperature

- 55°F to 86°F (+13°C to +30°C).

### Humidity

- 35% to 90% RH Non-Condensing.

### Noise

- < 60 db.

### Dimensions (less option bay)

- Floor space length (includes monitor): 1117mm (44”).
- Floor space width (including monitor): 1473mm (58”).
- Length: 889mm (35”).
- Width: 762mm (30”).
- Height: 1625mm (64”).

### Shipping Dimensions (less option bay)

- Length: 1625mm (64”).
- Width: 1220mm (48”).
- Height: 1905mm (75”).

### Shipping Weight

- 930 lbs (422 kg).



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